AMENDMENTS TO THE CLAIMS

Presented below is a complete set of claims with current status indicators.

1. (previously presented) A method for controlling the storing and recording of diagnostic data within an implantable medical device having a temporary memory and a long-term memory, the method comprising:

monitoring cardiac rhythm through the implantable medical device;

evaluating the cardiac rhythm to determine the likelihood that a cardiac arrhythmia will arise;

controlling the storing and recording of diagnostic data associated with the cardiac rhythm such that no diagnostic data is stored in the implantable temporary memory until it has been determined that a cardiac arrhythmia is likely to arise;

if it is determined that a cardiac arrhythmia is likely to arise, evaluating the cardiac rhythm to determine if a cardiac arrhythmia did actually occur; and

controlling the storing and recording of diagnostic data associated with the cardiac rhythm such that no diagnostic data is transferred from the implantable temporary memory and recorded in the implantable long-term memory until it has been determined that a cardiac arrhythmia did actually occur.

2. (previously presented) The method of claim 1 wherein evaluating the likelihood that a cardiac arrhythmia will arise comprises identifying periods of time wherein there is an elevated risk of an arrhythmia and wherein controlling the storing and recording of diagnostic data comprises storing the data in the temporary memory only during the period of time wherein there is an elevated risk of an arrhythmia.

3. (previously presented) The method of claim 2 wherein identifying periods of time wherein there is an elevated risk of an arrhythmia comprises monitoring heart rate variability and identifying periods of time with reduced heart rate variability.

4. (previously presented) The method of claim 2 wherein identifying periods of time wherein there is an elevated risk of an arrhythmia comprises identifying periods of time wherein there is an elevated risk of ventricular fibrillation.

5. (previously presented) The method of claim 4 wherein identifying periods of time wherein there is an elevated risk of ventricular fibrillation comprises detecting an episode of ventricular tachycardia and designating a predetermined period of time subsequent to the episode of ventricular tachycardia as being a period of time with elevated risk of ventricular fibrillation.

6. (previously presented) The method of claim 5 wherein controlling the storing and recording of diagnostic data comprises:

activating the storing of diagnostic data in the temporary memory upon detection of an episode of ventricular tachycardia; and

deactivating the storing of diagnostic data only if no further episodes of ventricular tachycardia are detected within a fixed period of time.

7. (previously presented) The method of claim 6 wherein the fixed period of time is at least nine months.

8. (previously presented) The method of claim 1 wherein evaluating the likelihood that a cardiac arrhythmia will arise comprises predicting the onset of an arrhythmia and wherein controlling the storing and recording of diagnostic data comprises activating storing in the temporary memory only prior to the predicted onset of the arrhythmia.

9. (previously presented) The method of claim 8 further comprising:

determining whether the predicted arrhythmia actually occurred; and

adaptively modifying parameters employed to predict the onset of the arrhythmia based on whether an arrhythmia actually occurred so as to reduce the likelihood of unnecessarily storing diagnostic data in the temporary memory in the absence of an arrhythmia.

10. (canceled)

11. (previously presented) The method of claim 8 wherein predicting the onset of an arrhythmia comprises:

examining the morphology of heart beats and predicting the onset of an arrhythmia based on detection of a significant change in morphology.

12. (canceled)

13. (previously presented) The method of claim 8 wherein predicting the onset of an arrhythmia comprises:

counting a number of beats occurring at a rate above a predetermined rate threshold and detecting the possible onset of an arrhythmia based on detection of a predetermined number of beats having a rate above the rate threshold.

14. (original) The method of claim 13 wherein the predetermined number of beats having a rate above the rate threshold is in the range of one to three beats.

15. (previously presented) The method of claim 13 further comprising confirming that an arrhythmia actually occurred and, if the arrhythmia is not confirmed, deactivating the storing of diagnostic data in the temporary memory.

16. (previously presented) The method of claim 15 further comprising, selectively incrementing the number of beats required to trigger activation of the storing of diagnostic data in the temporary memory, if the arrhythmia is not confirmed.

17. (previously presented) The method of claim 16 wherein the number of beats required to trigger activation of the storing of diagnostic data in the temporary memory is selectively incremented upon occurrence of two consecutive episodes wherein possible onset of arrhythmia was detected, and the storing of diagnostic data in the temporary memory was activated but the arrhythmia was not subsequently confirmed.

18. (previously presented) A method for controlling the storing and recording of diagnostic data within an implantable medical device having a temporary memory and a long-term memory, the method comprising:

monitoring cardiac rhythm through the implantable medical device;

evaluating the cardiac rhythm to determine the likelihood that a cardiac arrhythmia will arise;

controlling the storing and recording of diagnostic data associated with the cardiac rhythm such that no diagnostic data is stored in the implantable temporary memory until it has been determined that a cardiac arrhythmia is likely to arise;

determining whether the cardiac arrhythmia actually occurred; and

adaptively modifying parameters employed to evaluate the likelihood of such cardiac arrhythmia so as to reduce unnecessary storing of diagnostic data in the temporary memory.

19. (previously presented) The method of claim 1 wherein the diagnostic data to be stored includes one or more of: intracardiac electrograms (IEGMs) and event records.

20. (previously presented) The method of claim 1 wherein controlling the storing and recording of diagnostic data comprises:

activating the storing of diagnostic data in a temporary memory only if a cardiac arrhythmia is likely to arise; and

recording data to the long-term memory by transferring data from the temporary memory to the long-term memory if the cardiac arrhythmia actually occurred.

21. – 22. (canceled)

23. (previously presented) An implantable medical device comprising:

a device operative to monitor cardiac rhythm;

an implantable temporary memory operative to store diagnostic medical data;

an implantable long-term memory operative to record the diagnostic medical data stored in the temporary memory; and

a risk-based diagnostic data controller operative to evaluate the cardiac rhythm to determine the likelihood that a cardiac arrhythmia will arise and to control the storing and recording of diagnostic data such that no diagnostic data is stored in the temporary memory until it has been determined that a cardiac arrhythmia is likely to arise, and if it is determined that a cardiac arrhythmia is likely to arise, to evaluate the cardiac rhythm to determine if a cardiac arrhythmia did actually occur and to control the storing and recording of diagnostic data such that no diagnostic data is transferred from the implantable temporary memory and recorded in the implantable long-term memory until it has been determined that a cardiac arrhythmia did actually occur.

24. (canceled)

25. (previously presented) An implantable medical device comprising:

means for monitoring cardiac rhythm through the implantable medical device

implantable means for temporarily storing data;

implantable means for recording the temporarily stored data;

means for evaluating the cardiac rhythm to determine the likelihood that a cardiac arrhythmia will arise and if it is determined that a cardiac arrhythmia is likely to arise, evaluating the cardiac rhythm to determine if a cardiac arrhythmia did actually occur; and

means for controlling the storing and recording of diagnostic data within the means for temporarily storing data and means for recording the temporarily stored data such that no diagnostic data is stored in the means for temporarily storing data until it has been determined that a cardiac arrhythmia is likely to arise and no diagnostic data is transferred from the implantable temporary memory and recorded in the implantable long-term memory until it has been determined that a cardiac arrhythmia did actually occur.